

Promat



PROMATECT® 50

Bushfire Roof Installation Manual



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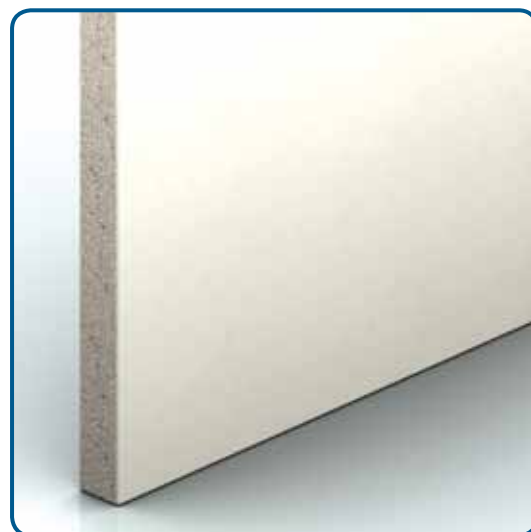
General Description

PROMATECT® 50 is Promat's matrix technology of binding organic materials and inorganic minerals within a calculated mineral matrix to form a monolithic core. Known as a Cement Bound Matrix board, this low energy environmentally friendly manufacturing process makes excellent boards that offer not only superior fire resistance but also exemplary physical strength, robustness and performance.

PROMATECT® 50 is off-white in colour. One face is extremely smooth and ready to form a finished surface able to receive almost any form of architectural/finish treatment. The reverse face has a (visible) fibre mesh reinforcement.

PROMATECT® 50 is resistant to the effects of moisture and will not physically deteriorate when used in damp or humid conditions. Performance characteristics are not degraded by moisture. A fully saturated, standard PROMATECT® 50 board retains up to 95% of its physical strength.

A health and safety data sheet is available from Promat and, as with any other material, should be read before working with the board. The board is not classified as a dangerous substance so no special provisions are required regarding the transportation and the disposal of the product to landfill. They can be placed in on-site rubbish skips with other general building waste which should then be disposed by a registered contractor in the appropriate and approved manner.



Typical Mechanical Properties

Flexural strength, $F_{rupture}$ (EN 12467: 2000)	Longitudinal N/mm ² Transverse N/mm ²	13.76 10.80
Tensile strength, $T_{rupture}$ (EN 12467: 2000)	N/mm ²	4.2
Compressive strength (average, perpendicular on board face) (BS 5669: Part 1: 1989)	N/mm ²	13.10

Applications

- Steel and timber stud partitions, solid/frameless partitions
- Self-supporting ceilings, suspended ceilings
- Membrane ceilings, timber floor protection
- Cladding to steel ducts
- M&E services enclosure, riser pipes enclosure

General Technical Properties

Product generic description	PromaX® technology Cement Bound Matrix board
Material class (BS 476: Part 4: 1970)	Non combustible
Surface spread of flame (BS 476: Part 7: 1997)	Class 1
Surface spread of flame for bare floors (AS ISO 9239: Part 1: 2003)	No ignition
Building regulations classification	Class 0
Heat and smoke release rates (AS/NZS 3837)	Group 1
Fire propagation of product (BS 476: Part 6: 1989)	$I = 0; i_1 = 0; i_2 = 0; i_3 = 0$
Simultaneous determination of ignitability, flame propagation, heat and smoke release (AS 1530: Part 3: 1999)	Indices 0/0/0/0-1
Density	kg/m ³ Nominal 1100
Thermal conductivity (approximate) at 20°C (ASTM C518: 1991)	W/m ² K 0.193
Typical moisture content, ambient to dry condition (BS 5669: Part 1: 1989, Clause 9)	2.4%
Emission test (ASTM D5116-90 for Green Label Singapore)	Within limits set out by the Singapore Environment Council
Thickness tolerance of standard boards	mm ± 0.5
Length x Width tolerance of standard boards	mm ± 5
Surface condition	Front face: smooth, fair Back face: smooth with fibre mesh reinforcement

Thickness (mm)	Standard dimensions (mm x mm)	Number of boards per pallet	Surface per pallet (m ² /pallet)	Weight per m ² of sheet (approximate kg/m ²)	Weight per pallet (approximate kg)
7	2440 x 1220	78	232	8.4	1849
9	2440 x 1220	60	178	10.8	1922
12	2440 x 1220	45	134	14.4	1929
15	2440 x 1220	36	107	18.0	1926
18	2440 x 1220	30	89	21.6	1922
20	2440 x 1220	27	80	24.0	1820
25	2440 x 1220	21	63	30.0	1890

*Other dimensions are available upon request. The properties in above tables are mean values given for information and guidance only. If certain properties are critical for a particular application, it is advisable to consult Promat.

PROMATECT® 50 is manufactured under a quality management system certified in accordance with ISO 9001: 2008.

WHEN MACHINING THIS PRODUCT, AIRBORNE DUST MAY BE RELEASED, WHICH MAY BE HAZARDOUS TO HEALTH. DO NOT INHALE THE DUST. AVOID CONTACT WITH SKIN AND EYES. USE DUST EXTRACTION EQUIPMENT. RESPECT REGULATORY OCCUPATIONAL EXPOSURE LIMITS FOR TOTAL INHALABLE AND RESPIRABLE DUST. FOR MORE INFORMATION PLEASE CHECK THE APPROPRIATE MATERIAL SAFETY DATA SHEET, AVAILABLE UPON REQUEST.



Loading, Handling etc

1. Storage

PROMATECT® 50 boards are supplied with protective plastic sheet wrapped around timber pallets.

In general, all pallets are supplied with a top protective layer. This board is clearly marked as such and must not be used as part of any system installation.

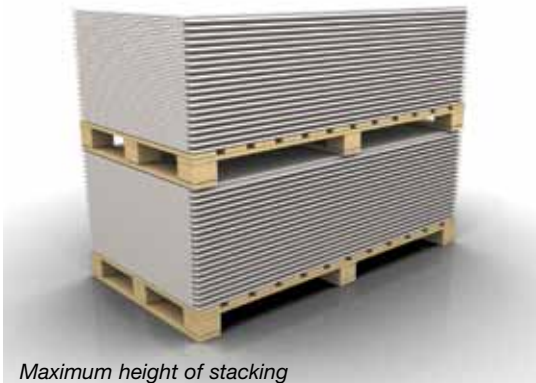
This protection should not be removed until the boards are ready for use. In general, the following steps should be taken to ensure that the boards remain in good condition during storage.

- a) PROMATECT® 40 boards should be stored on covered and dry, level ground, away from the working area or mechanical plant.



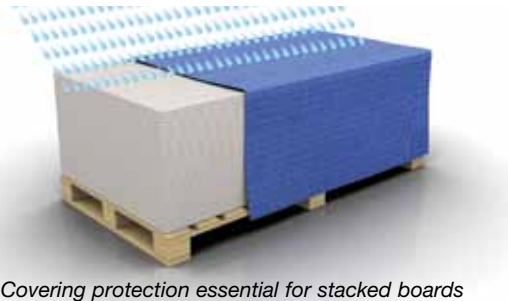
Stacking of PROMATECT® 50 boards

- b) Pallets should be a maximum of 800mm high, on firm level ground. If two or more pallets are stacked, the total stack height must be less than 3200mm.



Maximum height of stacking

- c) The boards must be protected from inclement weather.



Covering protection essential for stacked boards

- d) The boards must be stored under cover.



Complete protection for stacked and covered boards in storage

2. Handling

The following recommendations must be always taken into account when handling the boards.

- i) Wherever possible, always lift boards from the stack below rather than slide board on board. This will prevent damage or scratches occurring to the lower boards.



Lifting PROMATECT® 50 boards

- ii) Always carry the boards on edge but do not store on edge.



Carrying PROMATECT® 50 boards

Cutting

PROMATECT® 50 boards can be worked with conventional woodworking equipment although the use of hand saws with hardened teeth is recommended. Boards greater than 6mm in thickness may be more easily cut using a power circular saw with a tungsten carbide tipped blade, or a jigsaw.

Promat recommends that all cutting be carried out in well ventilated spaces, using dust extraction facilities. Operators should wear protective face masks at all times.

There are a wide variety of applications and fixing methods possible with PROMATECT® 50 boards. The method to be used is dependent on a number of factors, including:

- 1) The shape of boards, be they square, rectangular, circular etc;
- 2) The location where the work is to be carried out, be it industrial, commercial, on or off site etc;
- 3) The quality of workmanship required.

PROMATECT® 50 boards can be cut on site fairly easily. However, if a large amount of boards are to be cut, it is recommended that cutting is carried out off site under controlled conditions as much as possible to ensure good quality of finished edges etc.



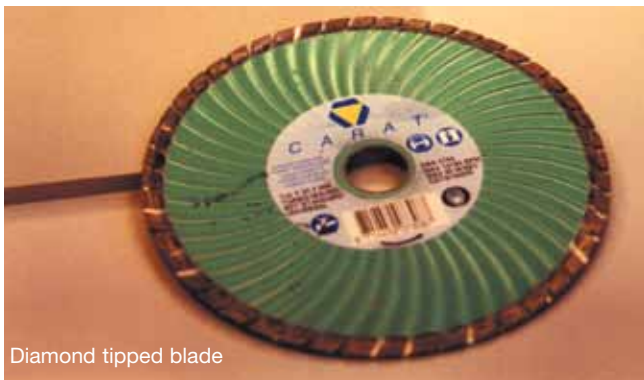
A few general rules should be observed when working with PROMATECT® 50 boards. These are as follows.

- For industrial and extended cutting life of tools, working with diamond tipped saws is recommended. Experience shows that tools with tungsten carbide teeth (TCT) provide a more than adequate cut.
- High speed electric tools generate very fine dust. Inhaling fine dust can be harmful to health. Therefore, dust extraction is necessary. Although PROMATECT® 50 boards contain no harmful fibres, inhalation of excessive nuisance dust can be detrimental to health. It is therefore recommended that when cutting or drilling any Promat products, appropriate face masks and PPE (personal protection equipment) should always be worn.
- Slow running tools produce coarse dust or chips but are not so efficient at cutting.
- The speed of cutting is best determined by:
 - thickness of the board;
 - hardness of the board;
 - condition of the blade.
- Boards must be held securely during cutting to avoid slippage and vibration which can lead to chipping of the board edges.
- The choice of the most appropriate tool for use in each country will depend on custom, practice and local regulations.

1. Cutting With Diamond Tipped Blades

Cutting with diamond tipped blades is carried out using high speed electric motor (2500-3000 rpm/minute depending on the diameter of the blade). There are two types of cutting machine:

- 1) Machine with fixed table and moving saw support;
- 2) Machine with fixed saw support and moving table.



Diamond tipped blade

The saw support can be equipped with several parallel saws for multi cutting in a single pass of the blades over the boards. A diamond tipped blade can be used in either a wet or dry state.

The disadvantage of wet cutting is the generation of a cement slurry which forms from the mixture of the dust and water. This must be drained off in an appropriate way. In addition, it is necessary to rinse the saw after each use to maintain the cutting quality. Wet cutting is not an ideal solution for PROMATECT® 50 boards.

The boards should be cleaned after cutting to avoid leaving any dust on the surface.

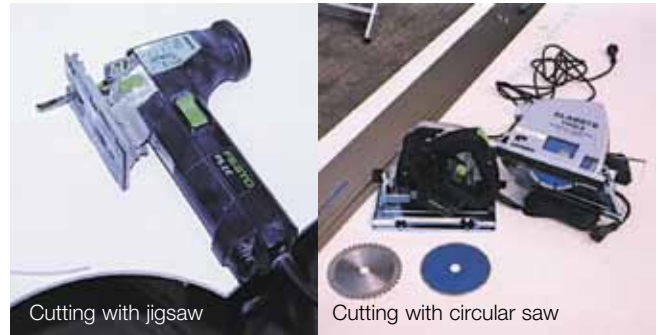
2. Cutting With Tungsten Carbide Blades

Tungsten carbide tipped saws can be used with either a high or low speed electric motor. The cutting is done in a dry state so dust extraction is essential.

The tungsten carbide teeth of the saw have a shorter life span than diamond tipped blades but they can be sharpened.

3. On-site Machines

While working at site, hand tools and low speed electric tools are generally recommended. When high speed electric tools are used, dust extraction is essential.



Cutting with jigsaw

Cutting with circular saw

Power tools with dust extraction equipment

Sawing machines such as FESTO, Bosch, Makita etc work with a tungsten carbide tipped saw blade on a low speed electric motor and move over a fixed working table.

It is a typical machine for occasional use on site producing very good results and is capable of cutting boards with maximum thickness up to 25mm.

A vacuum cleaner is recommended for use while cutting especially when using power saws. As an additional safety precaution, always wear eye, ear and dust protection when using power tools of any description. A portable version of the working table is available for the convenience of board cutting on site, as illustrated above.

While working with power saws, the following important points should be observed:

- Ensure that the boards to be cut are continuously and well supported on either side of the cut;
- A straight edge should be clamped in position to guide the cutting operation;
- Care must be taken to ensure the tool remains against the straight edge during the cutting operation;
- The cutting rate should be such that the blade is not labouring or overheating. Normally the feed speed would be slower than for natural timber.

Jigsaw

This is applicable for panels up to 25mm thick. The panels can be cut easily with a jigsaw to form various shapes. Blades with special hardened teeth are available for cutting PROMATECT® 50 boards. As with all power tools, care should be taken to cut within the capacity of the tool and blade. Do not force the cutting speed.

Hand saw

Hand sawing is suitable for general cutting operations and for small cuts, notchings or small penetrations. However, this method of cutting is usually time consuming. As always, the fastest method of cutting is to allow the saw to work at its own speed, trying to force the tool to cut faster merely blunts the teeth.

Rasp/Surform

A rasp or surform can be used for edge finishing where necessary in order to trim away rough edging. For fine edge finishing, dress the edges with fine glass paper.

Drilling

Drilling can be carried out either by hand or any conventional power drill with or without dust extraction. For best results, the boards should be firmly supported behind the location of the holes. Generally when working on Promat board products, the use of drills with point angles of 60° to 80° rather than the more usual 120° type, are preferable and more efficient.



AS 3959-2009 is (at the time of writing) the current edition of this Standard. The objective of this edition is to provide additional and detailed methods of assessing bushfire attack commensurate with the applicable construction requirements at greater increments when compared with the previous edition.

The Bushfire Attack Level (BAL) for any geographic or topographic site now comprises six categories, namely:

BAL-Low; BAL-12.5; BAL-19; BAL-29; BAL-40; and BAL-FZ where the numerical part of the category is the heat flux exposure in kW/m² expected and FZ is for buildings in a Flame Zone.

Section 9 of this standard deals with Construction for Bushfire Attack Level FZ (BAL-FZ) and it is this level that requires a roof system tested to AS1530.8.2. The Bushfire Roof System outlined in this manual has been successfully tested to this standard, and therefore the results can be used to assess against the requirements of AS 3959-2009 Standard and is approved for use in BAL-FZ areas.

Some building owners may feel it is prudent to use this construction in lower categories.

The system utilises PROMATECT® 50 board, which is a development of Promat's newest matrix technology of binding organic materials and inorganic minerals within a calculated mineral matrix to form a monolithic core. Known as Cement Bound Matrix (CBM) by **Promax®** technology, this low energy environmentally friendly manufacturing process makes an excellent board that not only has superior fire resistance but also physical strength and performance.

PROMATECT® 50 is off-white in colour. One face is extremely smooth and ready to form a finished surface, the reverse face has visible fibre mesh reinforcement which provides the extremely high mechanical strength of the board.

PROMATECT® 50 is resistant to the effects of moisture and will not physically deteriorate when used in damp or humid conditions. Performance characteristics are not degraded by age or moisture.

If, after it has been installed on the roof it is subjected to short term exposure to rain, it is good working practice to remove any pooling of water before the installation of insulation and roof decking takes place. For long term exposure to rain or in the likelihood of heavy rain it is advisable to cover the boards.

Fully saturated PROMATECT® 50 retains up to 95% of its physical strength once returned to its dry state.





9mm thick PROMATECT® 50 board is available with dimensions 1.22m x 2.44m and 1.22m x 2.7m.

NOTE: PROMATECT® 50 in a 9mm thickness is non trafficable and must not be walked on.

General notes

It is prudent to check out the building site to see if it is possible to move the boards directly from the back of a truck up to the roof. This can save hours of unnecessary labour.

The PROMATECT® 50 is off-white in colour and on days of bright sunlight it may be sensible to wear appropriate sun glasses when working on the roof.

Consider installing the sheets from the ridge downwards to the fascia and then working back up to the ridge with the roof battens. This should avoid any chance of the board being walked on.

There may also be some merit in starting at the centre (at the ridge) of the roof but this will depend on the truss layout and the length of the boards being used.

Roof sheet installation

See Figures 2, 3 and 4

The boards should be laid across the trusses and screwed or nailed down at each truss (approximately 50mm in from the corner) of the boards and then at 600mm centres along the truss. Screws or nails should be minimum 38mm x 6g (plasterboard) screws or similar dimension flat head nails. Nail guns can be used if appropriate. Care should be taken to ensure fixings are no closer than 12mm to the edge of the boards otherwise cracking may occur.

If there is any chance of the boards being exposed to wind uplift during installation or before the roof battens are placed, fixings should be at minimum 150mm centres or as required to meet local wind requirements during construction.

If the trusses are at 600mm centres and the boards are 2440mm in length it is recommended that the length of the boards are cut back to 2.4m so that the board joint is on a truss.

Wherever the boards are butt jointed and the joints do not land on a truss, then these joints should be supported. This can be done by fixing through from the underside through to the roof battens or to the underside into some additional noggins. Noggins this should be at each corner and minimum 600mm centres.

Another method of support would be to use 60mm x 9mm x 60mm x 0.55mm (minimum) galvanised steel zed section. This section should have one leg under the board and one leg over the adjoining board. It is also permissible to use a 200mm wide x 0.55mm thick galvanised steel sheet or timber noggins on the underside of the joints if this is convenient. These board joints must be tight fitting and if they are open or irregular or not fully backed, then the joints must be filled with PROMASEAL® Supa Mastic or PROMASEAL® AN Acrylic Sealant.

The sides of the boards that run across the trusses should be tightly butted together. Any open joints not backed with timber or a metal zed section, steel sheet or timber must be sealed to the full depth of the sheet with PROMASEAL® Supa Mastic or PROMASEAL® AN Acrylic Sealant. These gaps should be no greater than 3mm wide. If the gap is greater than 3mm it must be backed with steel sheet or timber battens as previously described.

If the pitch of the roof changes at a verandah / roof junction, hip or valley cut the boards neatly and apply a bead of PROMASEAL® Supa Mastic to the full depth along this joint if the gap is greater than 3mm and less than 10mm wide (see further notes and attached drawings for detailed information of fixing at ridges, hips, valleys, box gutters and change in roof pitch at verandahs).

Where boards are cut at angles at roof hips, it is permissible to use the off cut reverse side up if economically viable to avoid waste. If, after installation the boards are subjected to short term exposure to rain,

it is good working practice to remove any pooling of water before the installation of insulation and roof decking takes place. For long term exposure to rain or in the likelihood of heavy rain it is advisable to cover the boards.

Follow normal building practice for the installation of the roof battens, then install the Bradford Anticon Glass Wool Insulating blanket (foil face downwards) and roof sheeting. Ensure the ridge and hip details are closely adhered to (see Figure 12) and the correct insulation products are used as seals as detailed.

Fascia, barge and gable installation

See Figures 4, 5, 6, 8, 8a, 10 and 11

The fascia can be made from either minimum 19mm thick timber fascia board or standard steel fascia profile.

Barges and gables are made from minimum 19mm timber.

The fascia, barge and gable lining can be made up of 20mm thick and 6mm thick PROMATECT® 50 or 20mm thick and 9mm thick PROMATECT® 50 (in any order) or 3 layers of 9mm thick PROMATECT® 50.

The first layer of board is fixed to the rafters with 38mm x 6g screws or flat head nails (two fixings per rafter). All joints to fall on framing members or backed with noggings. Additional layers should be fixed in the same manner ensuring joints between layers do not coincide and are staggered a minimum 300mm apart.

Alternatively the first layer can be 16mm fire resistant plasterboard and the second layer can be 9mm PROMATECT® 50.

Eaves

See Figures 2, 4, 5, 6, 8, 8a and 10

The eave linings can be made of:

- 20mm thick and 6mm thick PROMATECT® 50 or
- 20mm thick and 9mm thick PROMATECT® 50 in any order or
- 3 layers of 9mm thick PROMATECT® 50.

PROMATECT® 50 boards are to be orientated so that butt joints between layers do not coincide (stagger by minimum 300mm). PROMATECT® 50 to be fixed with minimum 38mm x 6g (plasterboard) screws at 150mm centres at the perimeter and rows 600mm centres apart with fixings at 200mm centres in the field for eave lines up to 600mm in width. Care should be taken to ensure fixings are no closer than 12mm to the edge of the boards otherwise cracking may occur.

Where a combination of 20mm and 6mm thick boards are used with a steel fascia system, the 6mm board is to be aligned with and inserted into the 6mm groove in the steel fascia.

Alternatively the first layer can be 16mm fire resistant plasterboard and the second layer can be 9mm PROMATECT® 50. Where the final layer cannot be fitted in to a groove in the fascia apply a bead of PROMASEAL® Supa Mastic or PROMASEAL® AN Acrylic Sealant. See Figures 4, 5, 6 and 8.



Verandahs

See Figure 9a and 9

If the verandah and roof spaces are continuous (open to each other) then the verandah roof must be treated in the same manner as the main roof and the verandah soffit must be treated in the same manner as the eaves.

For verandahs (and eaves) between 600mm and 3000mm in width, the supporting framework requires a minimum purlin size of 102mm web x 76mm flange x 1.6mm thick with folded return to the flange edge spaced at maximum 600mm centres. The edge channels shall be folded steel channels of similar dimensions without the folded edge. The edge channels are fixed to the wall with M12 bolts at 500mm centres.

Timber of similar structural capacity may also be used.

Where the external wall separates the main roof space from the verandah (i.e. the roof trusses are not continuous from the main roof to the verandah) or the roof space can be separated from the verandah with an approved barrier, similar to the fascia or barge barrier (e.g. a layer of 20mm and 6mm thick PROMATECT® 50 - see Figure 9) then the verandah is required to have a non-combustible roof covering and the support structure shall be non-combustible or have timber rafters lined on the under side with minimum thickness 6mm PROMATECT® 50. Generally, systems complying with AS1530.8.2 may be used.

Hip and ridge details

See Figure 12

Hips and Ridges must be installed in accordance with the detail shown in Figure 12. Ensure all flashings are installed in accordance with normal building practice. The mineral wool cavity closure insulation shall be Bradford Fibretex 650 Rockwool, 75mm thick, 90mm wide and compressed between the roof sheets to 50% of its original thickness.

Valley construction details

See Figures 13 and 14

Ensure that the 9mm PROMATECT® 50 boards lining the main roof are carried through under the valley in accordance with Figures 13 and 14.

Ensure that the detail at the junction of the roof lining and the valley is sealed in accordance with Figures 13 and 14.

The mineral wool cavity closure insulation shall be Bradford Fibretex 650 Rockwool. This should be 75mm thick, 90mm wide positioned at the edge (as shown) and compressed with Anticon 55 Glass Wool Roofing Blanket to a nominal thickness of 40mm by the roof sheets.

The valley is lined with either two layers of 9mm thick PROMATECT® 50 or one layer of 20mm thick PROMATECT® 50 nominally fixed to the roof structure to hold in position as normal trade practice.

Install flashing and seal all joints with PROMASEAL® Supa Mastic as per Figures 13 and 14.

Install the metal valley and flashing in accordance with normal building practice to ensure it remains watertight and is fit for purpose.

Box gutter details

See Figure 15

Ensure that the 9mm PROMATECT® 50 boards that line the main roof are carried through under the box gutter to a BAL-FZ compliant wall.

Ensure that the detail at the junction of the roof lining and box gutter is sealed in accordance with Figure 15.

The box gutter is lined with either two layers of 9mm thick PROMATECT® 50 or one layer of 20mm thick PROMATECT® 50 which is nominally fixed to the gutter support framing to hold in position until the flashing is installed.

Seal all joints with PROMASEAL® Supa Mastic as per Figure 15.

Install the metal box gutter and flashing in accordance with normal building practice to ensure it remains watertight and is fit for purpose.

Availability

Product is now available. Place your order by Fax 1800 33 45 98 or Tel 1800 30 20 20 or Email orders@promat.com.au.

Cutting facilities are available (tolerances would be expected to be in the range of +/- 1 to 2mm). Promat do not do take offs or measurements and can take no responsibility for inaccuracies in quantities or measurements supplied to them.

PROMASEAL® Supa Mastic is available in 290ml cartridges.

PROMASEAL® AN Acrylic Sealant is available in 300ml cartridges.



Item	Description of Drawings page 9 -10
1	Corrugated Roof Cladding; Minimum 0.42mm thick steel cladding to AS 1445. Fixed on every second corrugation in the field of the sheet and at every corrugation at edges with self drilling Hex-head with EPDM seal and shank guard.
2	Minimum 9mm thick PROMATECT® 50 lining fixed to roof framing 50mm in from each corner if the end of the sheet falls on the framing and then nominal 600mm centres or as required to meet local wind requirements. Care should be taken to ensure fixings are no closer than 12mm to the edge of the boards otherwise cracking may occur.
3	Roof Insulation, Bradford's non combustible Anticon 55 Glass Wool Roof Blanket with foil fixed to one side (foil face downwards). Refer insulation manufacturer (Bradford's) for fixing details.
4	Either 90mm x 45mm seasoned pine battens or steel top hat batten 40mm high x 32mm head and 14mm flanges fixed to roof framing to meet structural requirements. Note: place 500 µm polyethylene strip (damp course) between the steel top hat and PROMATECT® 50 (strip to be nominal 10mm wider than steel top hat).
5	35mm x 35mm x 0.55mm minimum galvanised flashing at ridge and hips if the joint in the boards is not tight.
6	40mm x 40mm x 40mm x 0.55mm (minimum) galvanised steel zed closure flashing fixed to roof lining board with 8g min self drill screws at nominal 600mm centres. Sealant (item 11) to be applied in any gaps between the flashing and fascia (this flashing restrains item 7).
7	75mm thick x 90mm wide Bradford Fibretex 650 Rockwool Cavity Closure Insulation.
8	Timbers or steel roof framing, maximum 1200mm spacing.
9	Fascia lining. Either 20mm PROMATECT® 50 and a layer of 6mm or 9mm or three layers of PROMATECT® 50 deep enough to be covered by the fascia.
10	Fascia. 19mm timber fascia board deep enough to cover the fascia lining or Steel Fascia profile fixed over clips which are fixed through the end of each rafter.
11	PROMASEAL® Supa Mastic (which can be used in exposed and unexposed applications) or PROMASEAL® AN Acrylic Sealant.(which should be used in unexposed applications) max gap 10mm, fill to full depth of boards.
12	Ridge capping. Typically 0.42mm - 0.6mm. Nominal 330mm wide , 85mm high with nominal 35mm domed peak. Fixed to roof sheet or batten in accordance with trade practice.
13	Eaves lining. 20mm PROMATECT® 50 with either 9mm or 6mm PROMATECT® 50 or three layers of PROMATECT® 50. Butt joints between layers to be staggered by at least 300mm. The perimeter of the boards shall be fixed at 150mm centres and to the support framing (at 600mm centres) with fixings at 200mm centres in the field. First layer fixing shall be twice the thickness of the board and subsequent layers can be either 10g x 40mm 'grabber'(stitching) screws or screws long enough to penetrate in to the timber framing by at least 20mm.
14	Framing angle to support eaves lining. 35mm x 35mm x 0.7mm (min) or continuous timber batten (min 35mm x 35mm) fixed to the wall and trusses as per standard trade practice.
15	Wall tested or assessed to achieve performance equal to BAL-FZ.
16	Roof lining jointer. 60mm x 9mm x 60mm steel galvanised or zinc annealed zed section of flat steel sheet or timber batten (similar to Figure 3).
17	Barge Board capping. 150mm x 75mm x 0.42mm - 0.6mm steel. fixed by one screw to every third corrugation to roof sheeting of batten.
18	Valley and Box Gutter.
19	Valley gutter and Box gutter linings. two layers 9mm PROMATECT® 50 or one layer 20mm PROMATECT® 50. Cut to fit under the gutter. PROMATECT® 50 nominally fixed to roof to hold in position. Offset any butt joints between layers by minimum 300mm OR fill with PROMASEAL® SM Supa Mastic or Promat approved sealant if the gap is greater than 3mm and less than 10mm wide.

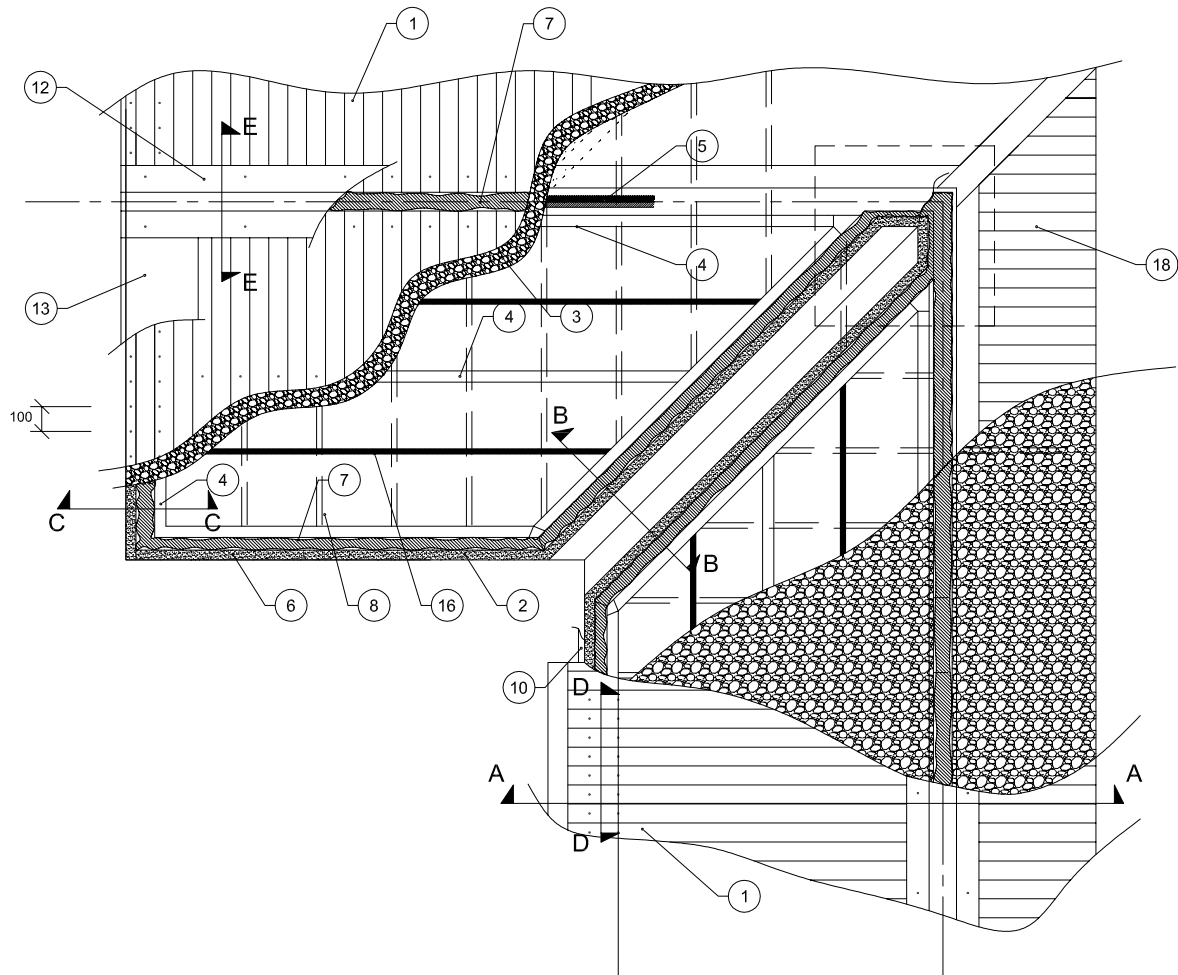


FIGURE 1

EXAMPLE OF A CUT AWAY PLAN OF A TYPICAL ROOF SYSTEM
SHOWING RIDGE AND VALLEY

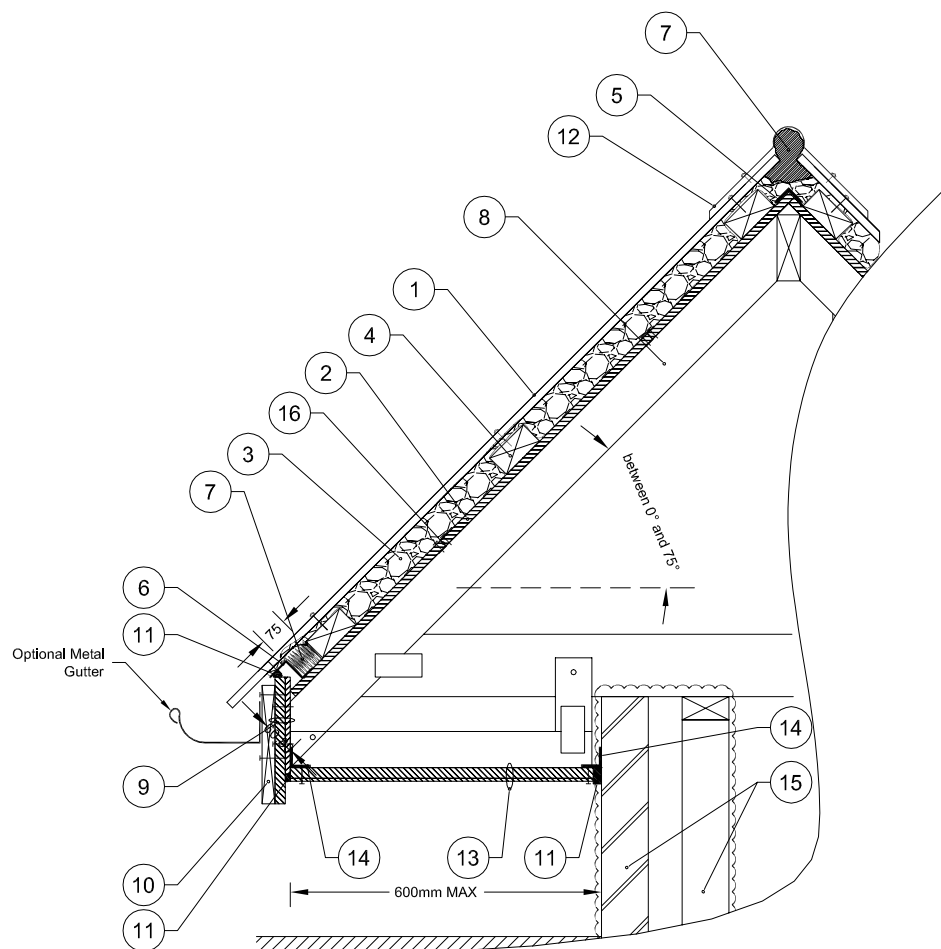


FIGURE 2

EXAMPLE OF A TYPICAL ROOF SYSTEM SHOWING RIDGE AND VALLEY (SECTION A-A)

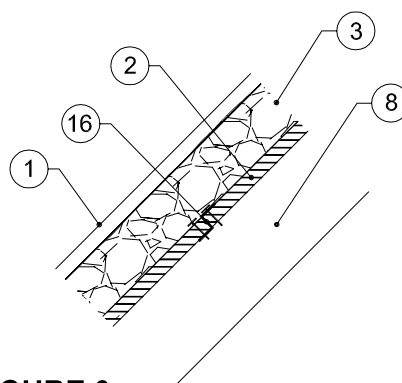


FIGURE 3

EXAMPLE OF A TYPICAL ROOF SYSTEM SHOWING RIDGE AND VALLEY (SECTION A-A)

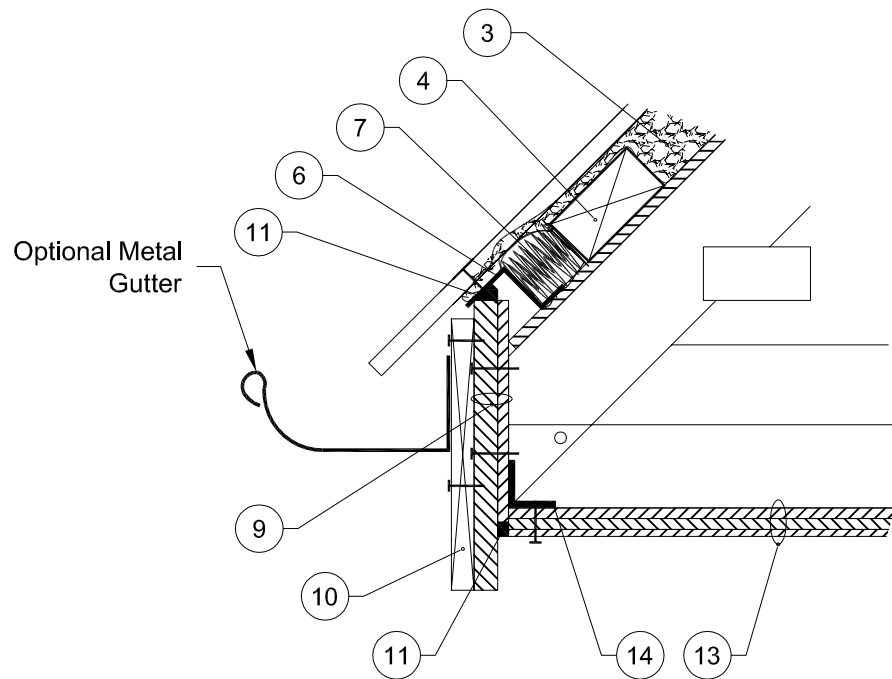


FIGURE 4
EAVES-FASCIA COMBINATION OPTION 1

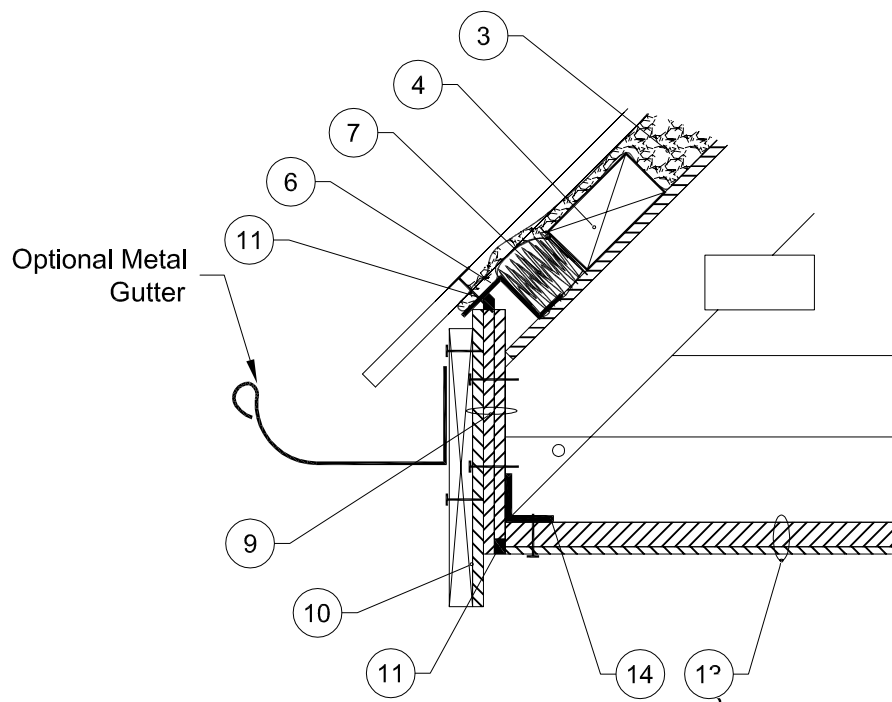


FIGURE 5
EAVES-FASCIA COMBINATION OPTION 2

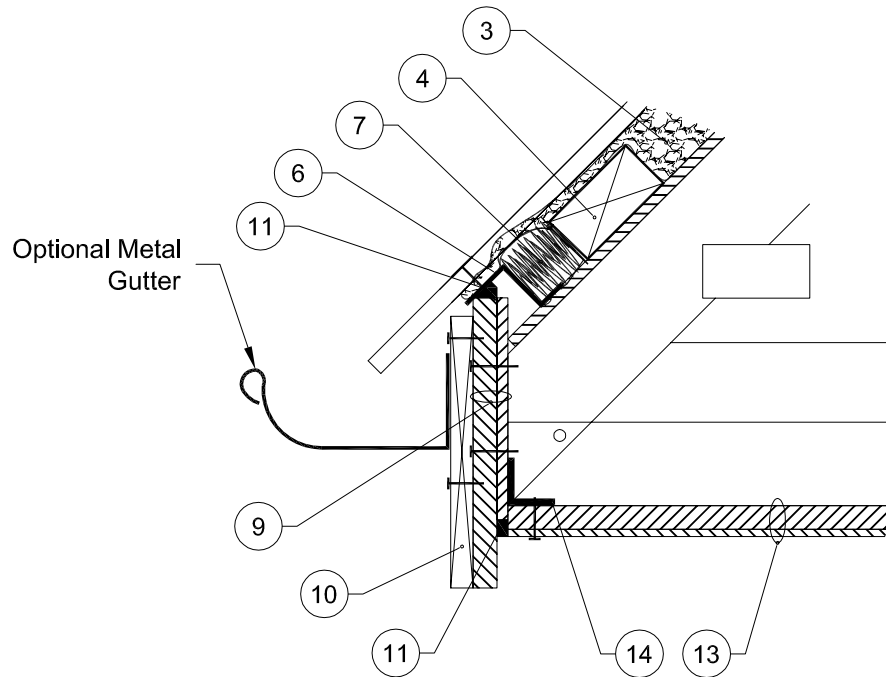


FIGURE 6
EAVES-FASCIA COMBINATION OPTION 3

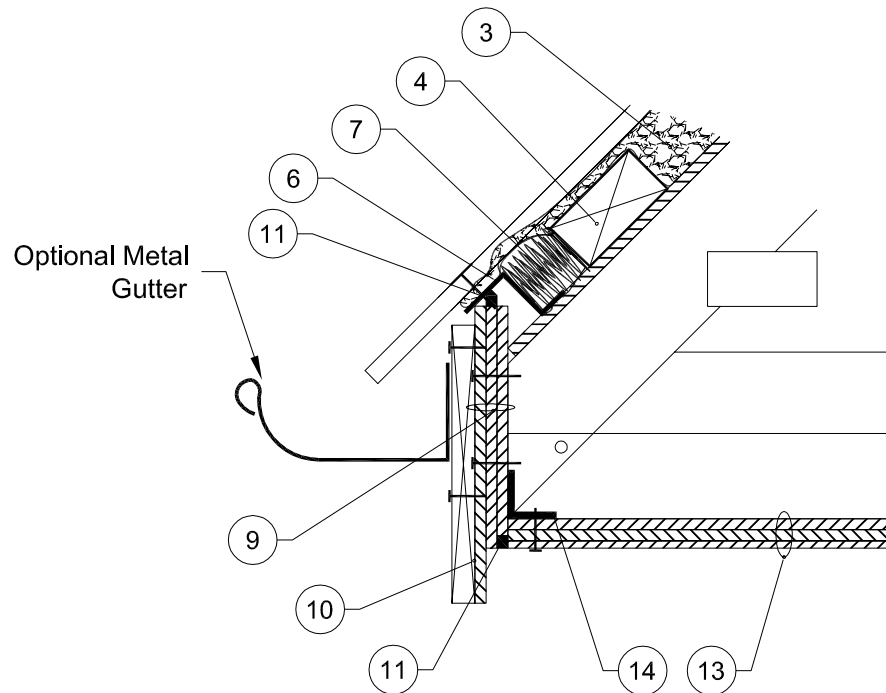


FIGURE 8
EAVES-FASCIA COMBINATION OPTION 4

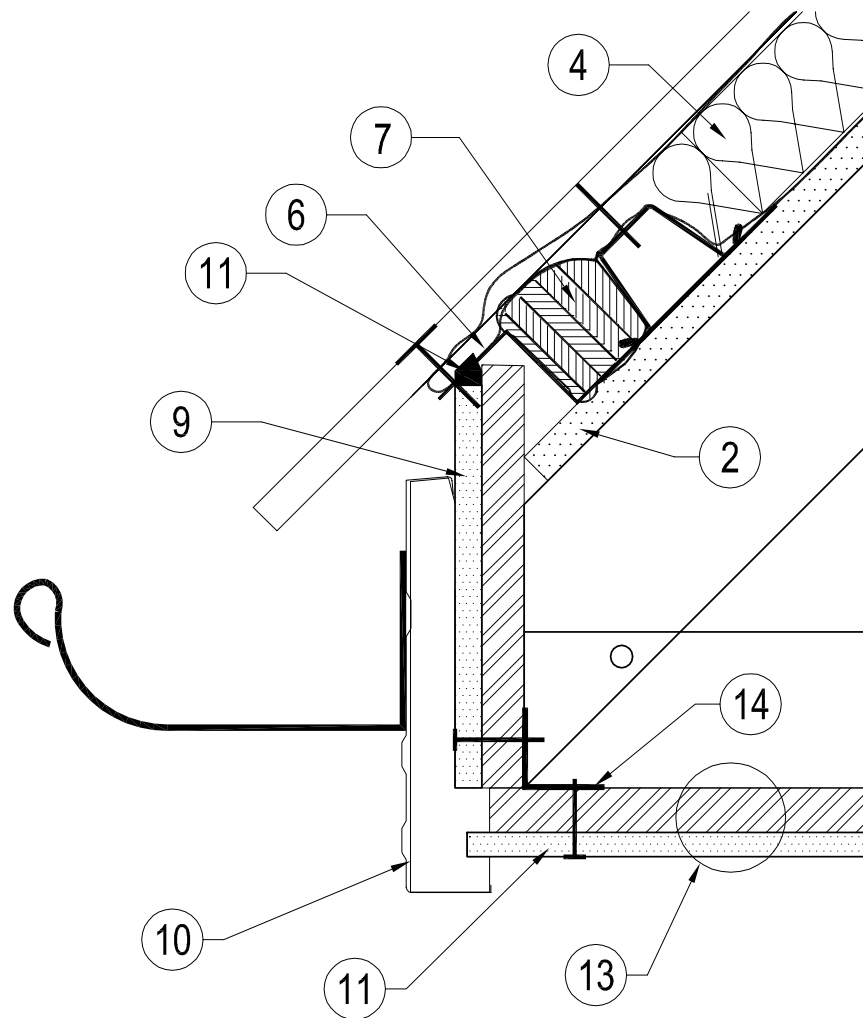


FIGURE 8a

EAVES-FASCIA COMBINATION (WITH STEEL FASCIA)

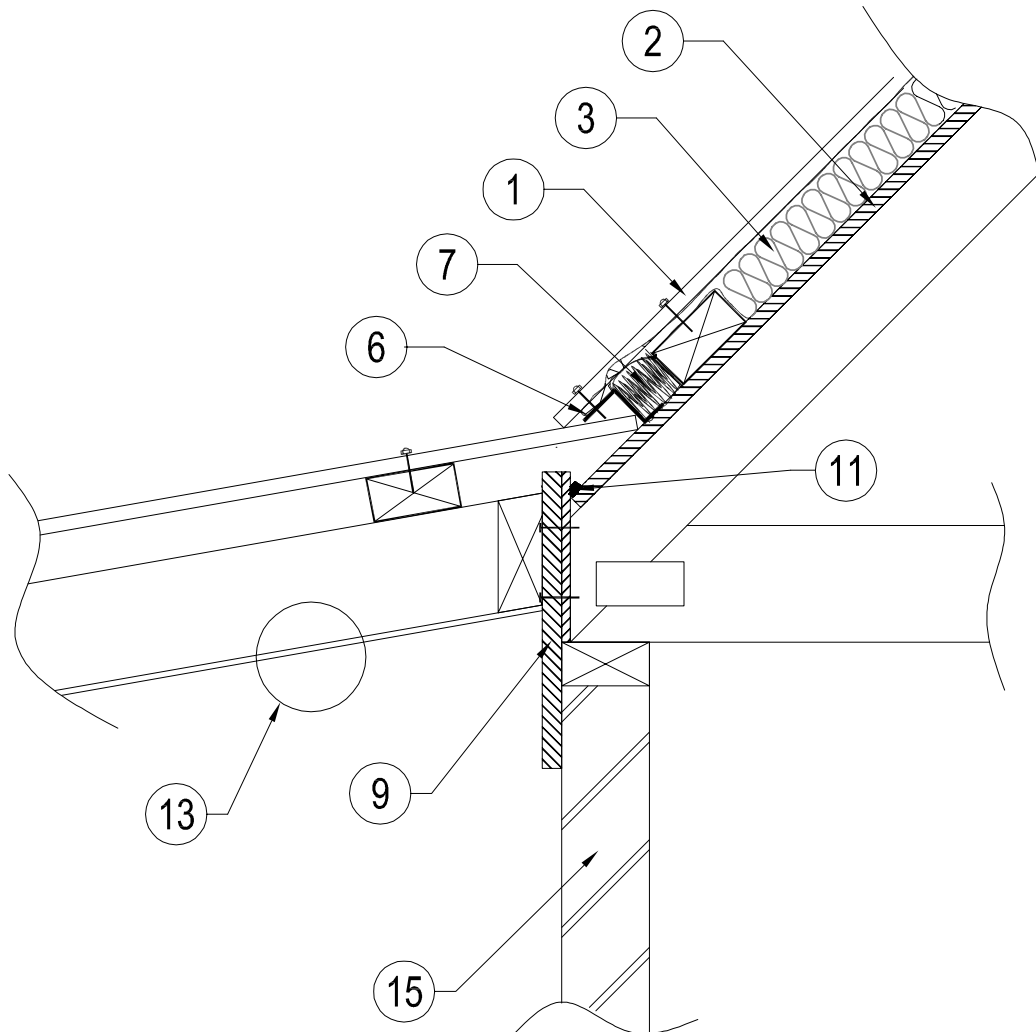


FIGURE 9a
EXAMPLE OF ROOF-VARANDAH JUNCTION

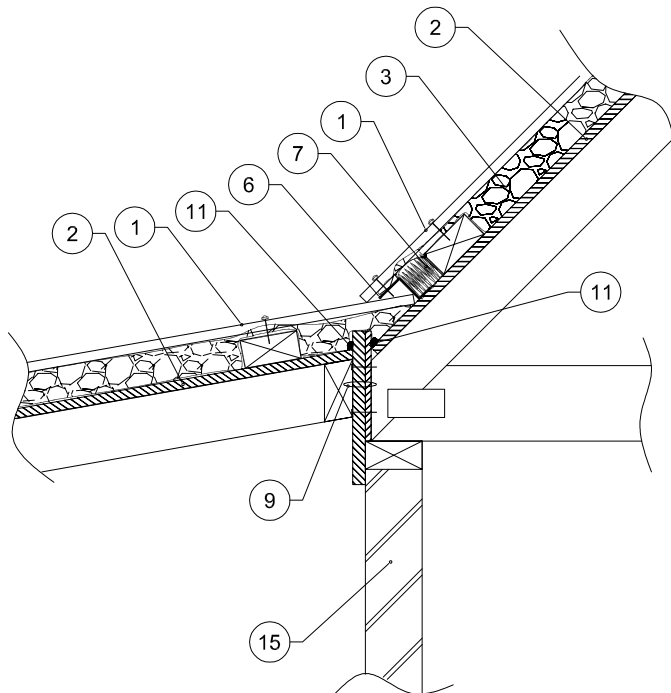


FIGURE 9

EXAMPLE OF ROOF-VARANDAH JUNCTION (SECTION A-A)

Notes

Rockwool shall be installed so that corrugations are fully filled with insulation

Sheet fixings at edge shall be installed into crest or valley at 100mm centres to suit framing location. Barge flashing may be required by others to be large enough to prevent water entry.

It is required that the roof be otherwise detailed to make sure it meets relevant roofing installation standards and regulations

The difference between the varandah and main roof pitches may require that the depth of the roof batten on the main roof be increased to ensure a suitable overlap occurs

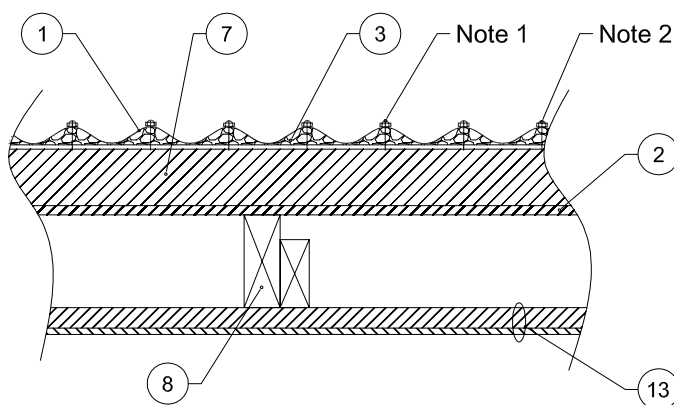
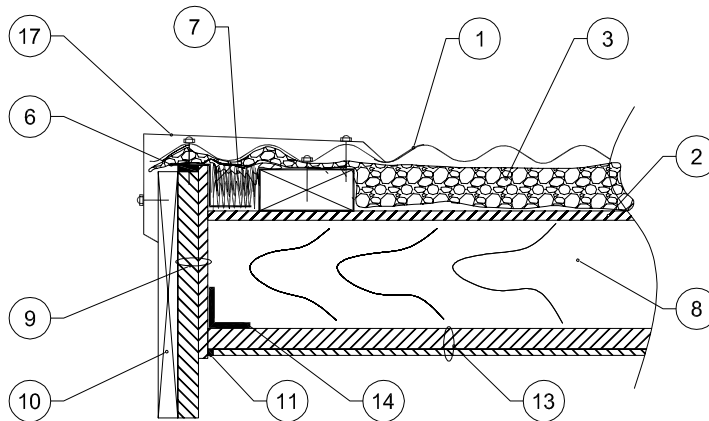


FIGURE 10

EXAMPLE OF EAVE DETAIL (SECTION D-D)

Note 1 - Rockwool shall be installed so that the corrugations are fully filled with insulation

Note 2 - Fixings shall be installed into every crest and into battens and cavity closure flashing



Notes

Rockwool shall be installed so that corrugations are fully filled with insulation

Sheet fixings at edge shall be installed into crest or valley at 100mm centres to suit framing location. Barge flashing may be required by others to be large enough to prevent water entry.

FIGURE 11

EXAMPLE OF BARGE AND GABLE DETAIL (SECTION C-C)

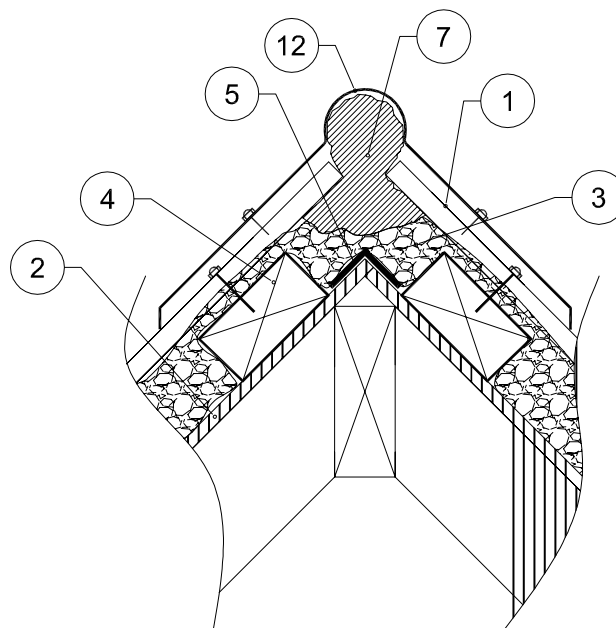


FIGURE 12

EXAMPLE OF RIDGE OR HIP DETAIL (SECTION E-E)

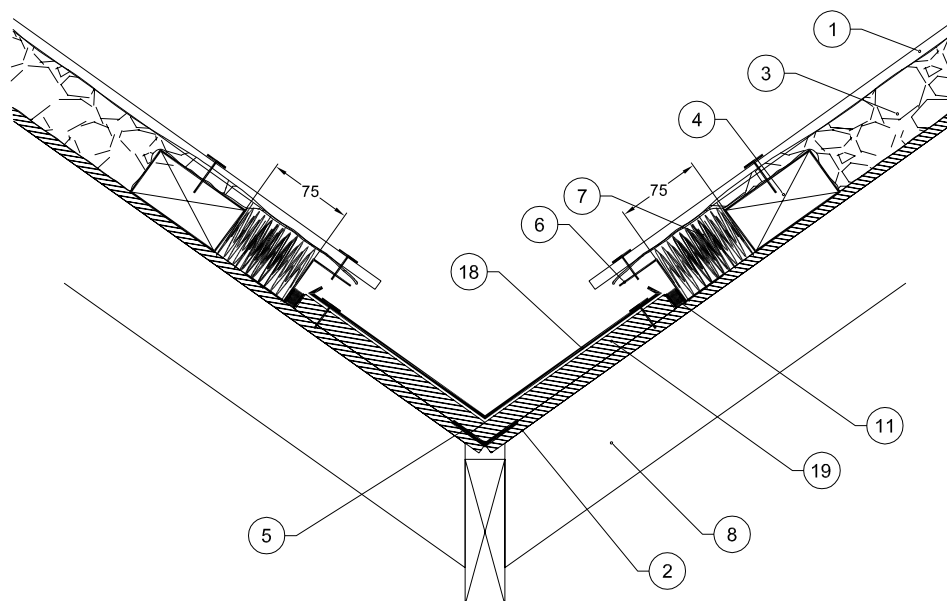


FIGURE 13

VALLEY CONSTRUCTION OPTION 1 (SECTION B-B)

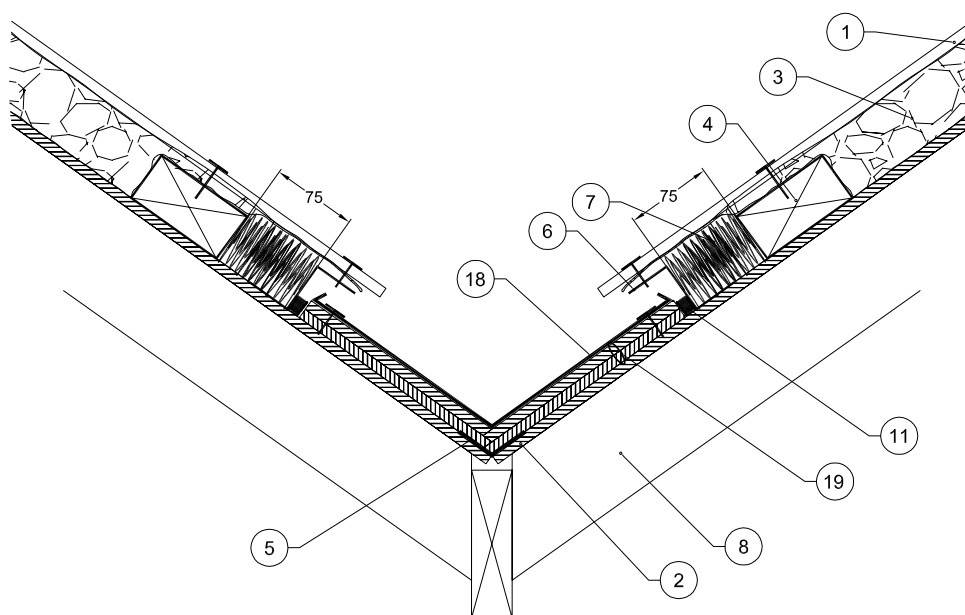


FIGURE 14

VALLEY CONSTRUCTION OPTION 2 (SECTION B-B)

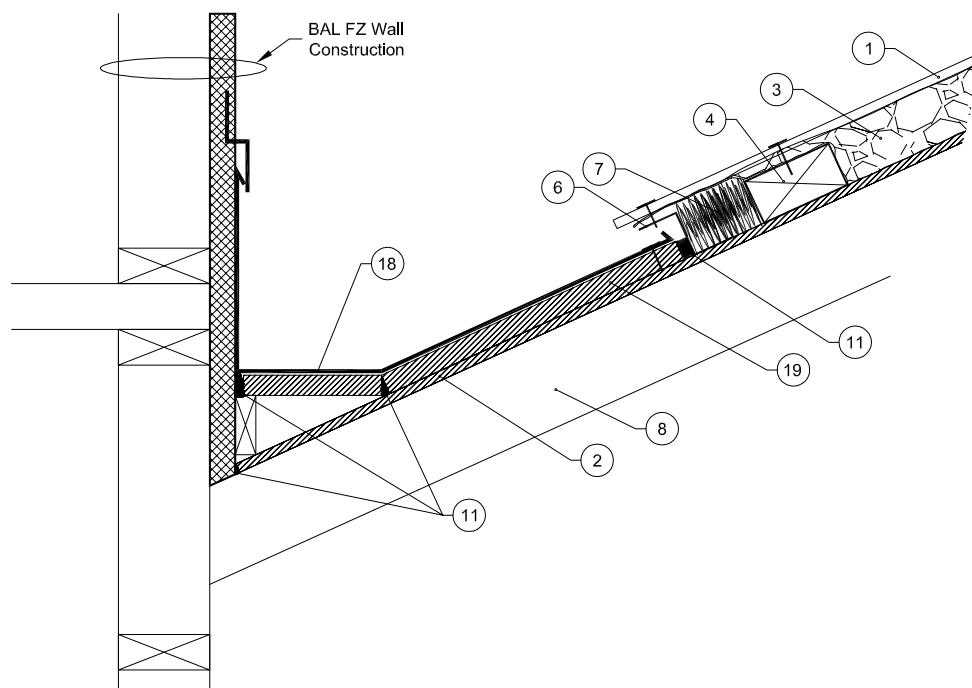


FIGURE 15
BOX GUTTER CONSTRUCTION DETAIL

1. PRODUCT INFORMATION

PRODUCT NAME	PROMATECT® 50
MARKETED BY	Promat International (Asia Pacific) Ltd.
INTENDED USES	Self-supporting Cement Bound Matrix board used for fire protection of buildings.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
Glass fibre	Not Available	Not Available	Not Available
Perlite	Not Available	Not Available	Not Available
Sorel type cement	Not Available	Not Available	Not Available
Water	H ₂ O	7732-18-5	Not Available
Wood	Not Available	Not Available	Not Available

3. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	None allocated	DG Class	None allocated	Subsidiary Risk(s)	None allocated
Packing Group	None allocated	Hazchem Code	None allocated	EPG	None allocated

4. FIRST AID MEASURES

INHALATION	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
INGESTION	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.
SKIN CONTACT	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
EYE CONTACT	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
ADVISE TO DOCTOR	Treat symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABILITY	Non flammable.
FIRE AND EXPLOSION	Non flammable. No fire or explosion hazard exists.
EXTINGUISHING	Non flammable.
HAZCHEM CODE	None allocated.

6. ACCIDENTAL RELEASE MEASURES

SPILLAGE	If spilt, collect and reuse where possible.
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7. HANDLING AND STORAGE

HANDLING	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.
STORAGE	Store in a cool, dry, well ventilated area, removed from oxidising agents, acids and foodstuffs. Ensure containers are adequately labelled.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE STANDARDS

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Wood dust (certain hardwoods such as beech and oak)	ASCC (Australia)	-	1	-	-
Wood dust (soft wood)	ASCC (Australia)	-	5	-	10

GLASS FIBRE

ES-TWA: 0.5 f/mL (Synthetic mineral fibres, respirable fibres)
ES-TWA#: 2 mg/m³ (Non-respirable fibres, inspirable dust)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

BIOLOGICAL LIMITS	No biological limit allocated.
ENGINEERING CONTROLS	Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.
PPE	Wear cotton or leather gloves. If cutting or sanding with potential for dust generation, wear: dust-proof goggles and a Class P1 (Particulate) respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Board	EVAPORATION RATE	None	COLOUR	White to geyish white
SOLUBILITY (WATER)	Insoluble	ODOUR	None	SPECIFIC GRAVITY	Approx 1.0
pH	Approx 7-9	% VOLATILES	None	VAPOUR PRESSURE	None
FLAMMABILITY	None	RELATIVE DENSITY	Approx 1000kg/m ³	FLASH POINT	None
BOILING POINT	None	UPPER EXPLOSION LIMIT	None	MELTING POINT	None
LOWER EXPLOSION LIMIT	None				

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY	Stable under recommended conditions of storage.
CONDITION TO AVOID	Avoid heat, sparks, open flames and other ignition sources.
MATERIAL TO AVOID	Incompatible with oxidising agents (eg. hypochlorites) and acids (eg. nitric acid).
DECOMPOSITION	May evolve toxic gases if heated to decomposition.
HAZARDOUS REACTIONS	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

HEALTH HAZARD SUMMARY	Low Toxicity - Irritant. Under normal conditions of use this product is not anticipated to present a hazard unless product is cut, drilled or sanded with the generation of irritating/slightly corrosive dust. Use safe work practices to avoid dust generation and inhalation. Crystalline silica inhaled in the form of quartz or cristobalite from occupational / workplace sources is carcinogenic to humans (Group 1). GENERAL NOTE: AS MOST BUILDING PRODUCTS, THIS PRODUCT CONTAINS QUARTZ. MECHANICAL MACHINING (CUTTING, SANDING, DRILLING) OF BUILDING PRODUCTS WILL RELEASE DUST WHICH MAY CONTAIN QUARTZ PARTICLES. HOWEVER, FOR THIS PRODUCT, WITH EXPOSURE ASSESSMENTS PERFORMED BY ACCREDITED EUROPEAN LABORATORIES USING REFERENCE WORKPLACE MONITORING METHODS, ANY QUARTZ LEVELS IN THE RESPIRABLE DUST WERE BELOW THE DETECTION LIMIT. INHALATION OF HIGH CONCENTRATIONS OF DUST MAY IRRITATE THE AIRWAYS. DUST MAY ALSO CAUSE IRRITATION TO THE EYES AND/OR SKIN. INHALATION OF RESPIRABLE DUST CONTAINING QUARTZ, IN HIGH CONCENTRATIONS OR OVER PROLONGED PERIODS OF TIME CAN LEAD TO LUNG DISEASE (SILICOSIS) AND AN INCREASED RISK OF LUNG CANCER. AVOID THE INHALATION OF DUST BY USING MACHINERY WITH DUST EXTRACTION. GUARANTEE ADEQUATE VENTILATION ON THE WORK FLOOR. AVOID CONTACT WITH THE EYES AND SKIN AND AVOID INHALATION OF DUST BY WEARING THE APPROPRIATE PERSONAL PROTECTION GEAR (SAFETY GOGGLES, PROTECTIVE CLOTHING AND DUST MASK).
EYE	Due to product form and nature of use, the potential for exposure is reduced. Product may only present a hazard if material is cut, ground or sanded with dust generation, which may result in irritation and lacrimation.
INHALATION	Exposure considered unlikely. An inhalation hazard is not anticipated unless this material is cut, drilled or sanded with dust generation, which may result in mucous membrane irritation of the upper respiratory tract with over exposure. Crystalline silica is classified as carcinogenic to humans (IARC Group 1).
SKIN	Low irritant. Prolonged or repeated exposure to dust may result in irritation and dermatitis.
INGESTION	Ingestion is considered unlikely due to product form.
TOXICITY DATA	No LD50 data available for this product.

12. ECOLOGICAL INFORMATION

ENVIRONMENT	Limited ecotoxicity data was available for this product at the time this report was prepared. Ensure appropriate measures are taken to prevent this product from entering the environment.
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13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL	Reuse where possible. No special precautions are required for this product.
LEGISLATION	Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**

SHIPPING NAME	None Allocated				
UN NO.	None Allocated	DG CLASS	None Allocated	SUBSIDIARY RISK(S)	None Allocated
PACKING GROUP	None Allocated	HAZCHEM CODE	None Allocated	EPG	None Allocated

15. REGULATORY INFORMATION

POISON SCHEDULE	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).
AICS	All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION**ADDITIONAL INFORMATION**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

ABBREVIATIONS:

ADB - Air-Dry Basis.

BEI - Biological Exposure Indice(s)

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

EINECS - European INventory of Existing Commercial chemical Substances.

IARC - International Agency for Research on Cancer.

M - moles per litre, a unit of concentration.

mg/m3 - Milligrams per cubic metre.

NOS - Not Otherwise Specified.

NTP - National Toxicology Program.

OSHA - Occupational Safety and Health Administration.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

RTECS - Registry of Toxic Effects of Chemical Substances.

TWA/ES - Time Weighted Average or Exposure Standard.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

REPORT STATUS

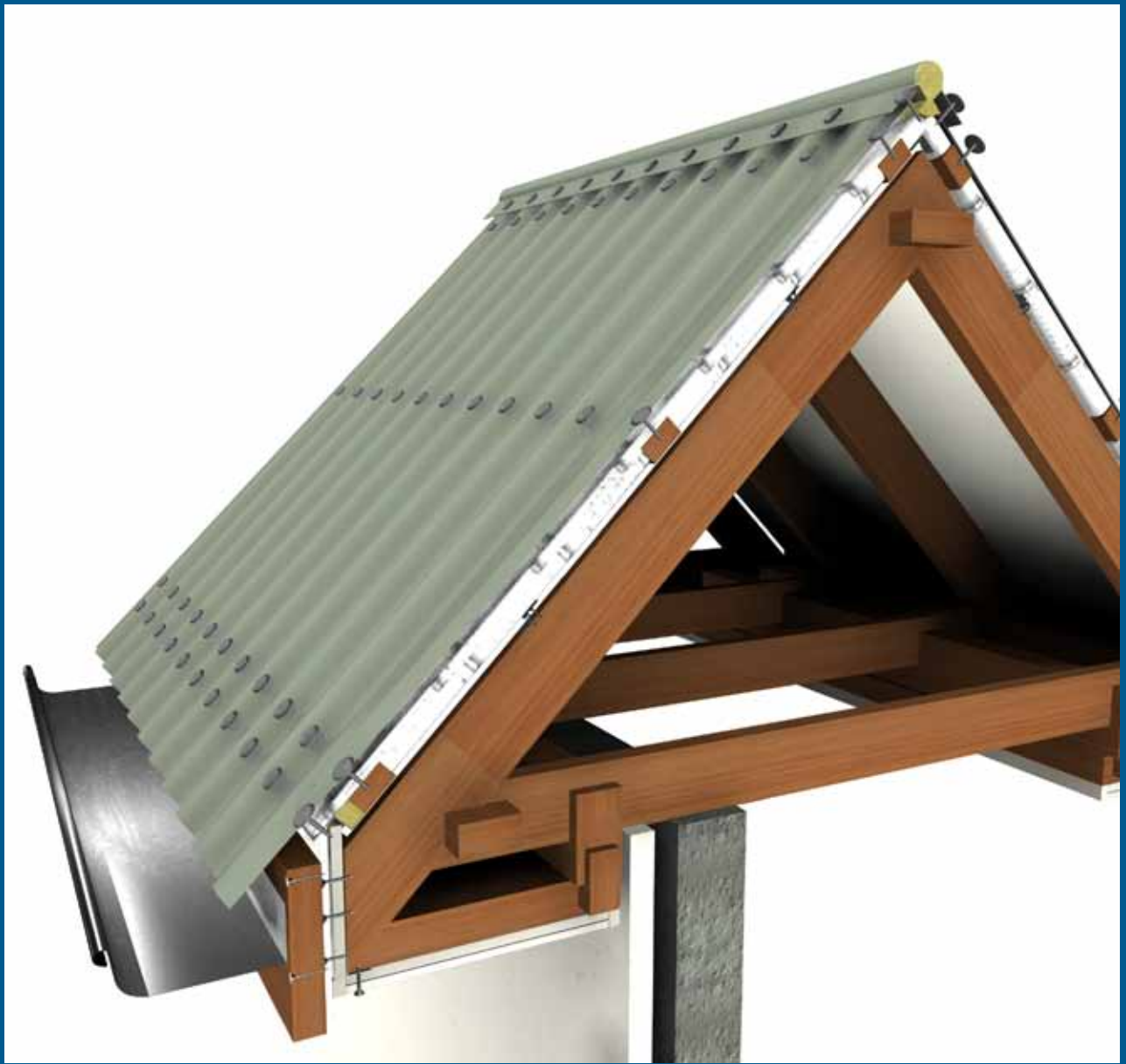
This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of

the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

The information supplied in this Material Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best available knowledge and belief at the date of publication. However, no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. For further technical information, please consult your nearest Promat office.



For latest information of the Promat Asia Pacific organisation, please refer to www.promat-ap.com.

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